# Altmann Oliver Associates, LLC

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January 25, 2017

AOA-3333B

Jim Merrill Merrill Design Group 485 Rainier Blvd N, #202 Issaquah, WA 98027

SUBJECT: Wolfe Residence – Updated Critical Areas Variance

Parcel 342406-9035, Issaguah, WA

Dear Jim:

On November 29, 2016 I conducted a wetland and stream reconnaissance on the subject property utilizing the methodology outlined in the May 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).* The purpose of the reconnaissance was to: 1) confirm that the previously delineated and surveyed wetland boundary had not changed and 2) rate the wetland per the current City of Issaguah wetland classification system.

## **1.0 Existing Conditions**

The subject property is currently undeveloped and consists primarily of a periodically mowed pasture. Two wetland areas (Wetland Areas A and B) and one Stream (Stream A) are located on the site. Wetland Area A is located in the northern portion of the property and also extends south within a small swale along the east property line. Wetland Area B is located in the southwest portion of the site. Stream A is a tributary to Issaquah Creek and flows from north to south through the northwest portion of the site. Access to the site is via a small gravel drive at the end of SE Nyberg Lane. Although persistent wetland flagging was not evident at the time of the November 2016 site review, the boundary as depicted on the survey drawing did not appear to have changed and remains valid.

Jim Merrill January 25, 2017 Page 2

Wetland Areas A and B are hydrologically associated and were considered one wetland unit for rating purposes. The on-site wetlands are part of a much larger wetland system that extends off-site to the north, east, south, and west. Vegetation within the wetlands in the vicinity of the site consisted primarily of a deciduous forest dominated by red alder (*Alnus rubra*), willow (*Salix* sp.), Himalayan blackberry (*Rubus armeniacus*) and red-osier dogwood (*Cornus sericea*).

Under the current City of Issaquah wetland rating system, Wetland A/B appears to meet the criteria for a Category I wetland with 8 Habitat Points (**Attachment A**) and would therefore require a standard 225-foot buffer plus 15-foot building setback per IMC 18.10.640.C. Stream A is considered a Class 2 stream with presumed salmonids and would require a standard 100-foot buffer. Based on these buffer requirements, the entire site is encumbered.

## 2.0 Critical Area Impacts and Mitigation

The critical areas variance would impact 7,593 s.f. of degraded buffer (primarily mowed pasture) in the central portion of the site. Mitigation for this impact will occur by: 1) enhancing all of the remaining degraded buffer areas on the site (22,453 s.f.) and 2) enhancing 4,483 s.f. of degraded wetland.

The proposed enhancement plan would re-vegetate the degraded wetland and buffer with a wide variety of native trees and shrubs that will significantly increase the plant species and structural diversity of the critical areas over current conditions. The enhanced buffer will further increase the habitat and protective functions of the buffer by providing a visual and physical screen to the wetland and stream from the proposed development.

Following implementation of the buffer enhancement plan, a fence would be installed along the buffer edge to prevent pedestrian intrusion.

As required by the City of Issaquah, a 5-year monitoring, maintenance, and contingency plan has been prepared for the site (see **Drawing W2.3**).

If you have any questions regarding the updated wetland rating or enhancement plan please call me at (425) 333-4535.

Sincerely,

ALTMANN OLIVER ASSOCIATES, LLC

John Altmann Ecologist

# ATTACHMENT A WETLAND RATING

# **RATING SUMMARY – Western Washington**

	Name of wetland (or ID #): YARCEL 34246-4035 Date of site visit: 1/29/16
	Rated by ALTMAN Trained by Ecology? X Yes No Date of trainingO3/08 ,
	HGM Class used for rating DEPRESSION Wetland has multiple HGM classes? メソ N
	NOTE: Form is not complete without the figures requested (figures can be combined).  Source of base aerial photo/map Line County i MAP
O	VERALL WETLAND CATEGORY (based on functions or special characteristics)

## 1. Category of wetland based on FUNCTIONS

Category I — Total score = 23 - 27
Category II – Total score = 20 - 22
Category III – Total score = 16 - 19
Category IV – Total score = 9 - 15

FUNCTION		nprov ter Q	/ing uality	Н	ydrolo	gic	H	labita	it	
	<u> </u>				Circle t	he a	ppropri	ate ra	tings	
Site Potential	(H)	М	L	Н	(M)	L	世	M	L	
Landscape Potential	回	M	L	H	M	L		М	L	
Value	间	M	L (	H	М	L	<b>W</b>	М	L	TOTAL
Score Based on Ratings		9			7		1	3		24

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,M 6 = H,M,L 6 = M,M,M 5 = H,L,L

5 = M,M,L 4 = M,L,L

3 = L,L,L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	×

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  points = 1	2
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes 42 No = 0	4
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > ½ of area points = 1 Wetland has persistent, ungrazed plants < ½ of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 2  points = 0	4
Total for D 1 Add the points in the boxes above	15
Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the first part D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  Yes 1 No = 0	ge
9	Ü
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Ì
D 2.3. Are there septic systems within 250 ft of the wetland?  Yes 1 No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source Yes = 1 No = 0	0
Total for D 2 Add the points in the boxes above	3
Rating of Landscape Potential If score is: X 3 or 4 = H1 or 2 = M0 = L Record the rating on the fire	
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes 1 No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes 1 No = 0	V
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Yes = 2) No = 0	Z
Total for D 3 Add the points in the boxes above	Ų
Rating of Value If score is: $\times 2-4 = H$ $1 = M$ $0 = L$ Record the rating on the first page	

DEPRESSIONAL AND FLATS WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and str	eam degradatio	n
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. <u>Characteristics of surface water outflows from the wetland</u> :  Wetland is a depression or flat depression with no surface water leaving it (no outlet)  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 4 outletpoints = 2 points = .1 points = 0	2
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outle with no outlet, measure from the surface of permanent water or if dry, the deepest part.  Marks of ponding are 3 ft or more above the surface or bottom of outlet  Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet  Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet  The wetland is a "headwater" wetland  Wetland is flat but has small depressions on the surface that trap water  Marks of ponding less than 0.5 ft (6 in)	points = 7 points = 5 points = 3 points = 3 points = 1 points = 0	3
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream contributing surface water to the wetland to the area of the wetland unit itself.  The area of the basin is less than 10 times the area of the unit   The area of the basin is 10 to 100 times the area of the unit  The area of the basin is more than 100 times the area of the unit  Entire wetland is in the Flats class	points = 5 points = 0 points = 5	5
Total for D 4 Add the points in the bo	oxes above	0
	the rating on the fi	rst page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	= 1 No = 0	0
	1 No = 0	It
	(residential at 1) No = 0	٨
Total for D 5 Add the points in the bo	oxes above	2_
Rating of Landscape Potential If score is:3 = H1 or 2 = M0 = L Record to	the rating on the fir	st page
D 6.0. Are the hydrologic functions provided by the site valuable to society?		
<ul> <li>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conthe wetland unit being rated. Do not add points. Choose the highest score if more than one condition. The wetland captures surface water that would otherwise flow down-gradient into areas where floodamaged human or natural resources (e.g., houses or salmon redds):</li> <li>Flooding occurs in a sub-basin that is immediately down-gradient of unit.</li> <li>Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin.</li> <li>The existing or potential outflow from the wetland is so constrained by human or natural condition water stored by the wetland cannot reach areas that flood. Explain why</li> <li>There are no problems with flooding downstream of the wetland.</li> </ul>	points = 1 s that the points = 0 points = 0	2_
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood conveyance in a region of the region o	1 /	٥
Total for D 6 Add the points in the bo	: 2 No = 0	21
	ixes ahove	21

### These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4Emergent 3 structures: points Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: X The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points (1) Saturated only 1 type present: points = 0Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle If you counted: > 19 species points # 2 5 - 19 species points = 1 < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are HIGH = 3points

• (/			
H 1.5. Special habitat features:  Check the habitat features that are present in the wetland.  Large, downed, woody debris within the wetland (> 4 in Standing snags (dbh > 4 in) within the wetland  Undercut banks are present for at least 6.6 ft (2 m) and over a stream (or ditch) in, or contiguous with the wetl  Stable steep banks of fine material that might be used be slope) OR signs of recent beaver activity are present (con where wood is exposed)  At least ¼ ac of thin-stemmed persistent plants or wood permanently or seasonally inundated (structures for exposed)  Invasive plants cover less than 25% of the wetland area strata)	for overhanging plants extends at and, for at least 33 ft (10 m) beaver or muskrat for denning at shrubs or trees that have not yet by branches are present in areas the aglaying by amphibians) in every stratum of plants (see H.	least 3.3 ft (1 m) (> 30 degree t weathered nat are 1.1 for list of	4
Total for H 1	Add the points in t	he boxes above	12
Rating of Site Potential If score is:15-18 = H X_7-14 = M	_ <b>0-6 = L</b>	cord the rating on	the first page
H 2.0. Does the landscape have the potential to support the l	nabitat functions of the site?	CLASS CONTROL STATES OF THE ST	
			Lindrich Australia is the const
H 2.1. Accessible habitat (include only habitat that directly abuts w. Calculate: % undisturbed habitat + [(% moderat lf total accessible habitat is: $> \frac{1}{3}$ (33.3%) of 1 km Polygon 20-33% of 1 km Polygon 10-19% of 1 km Polygon	·	points = 3 points = 2 points = 1	2
< 10% of 1 km Polygon		points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate: % undisturbed habitat + [(% moderat Undisturbed habitat > 50% of Polygon Undisturbed habitat 10-50% and in 1-3 patches Undisturbed habitat 10-50% and > 3 patches Undisturbed habitat < 10% of 1 km Polygon  H 2.3. Land use intensity in 1 km Polygon: If	e and low intensity land uses)/2]_	=	3
> 50% of 1 km Polygon is high intensity land use		points = (- 2)	<b>(</b> )
≤ 50% of 1 km Polygon is high intensity		points = 0	. •
Total for H 2	Add the points in t	he boxes above	5
Rating of Landscape Potential If score is: 4-6 = H1-3 = M	< 1 = L Rec	ord the rating on th	ne first page
H 3.0. Is the habitat provided by the site valuable to society?			
H 3.1. Does the site provide habitat for species valued in laws, regulation that applies to the wetland being rated.  Site meets ANY of the following criteria:  It has 3 or more priority habitats within 100 m (see next)  It provides habitat for Threatened or Endangered species  It is mapped as a location for an individual WDFW priority  It is a Wetland of High Conservation Value as determined  It has been categorized as an important habitat site in a Shoreline Master Plan, or in a watershed plan  Site has 1 or 2 priority habitats (listed on next page) within 1000 m (see next)	page) s (any plant or animal on the state sy species d by the Department of Natural Re local or regional comprehensive p	points = 2 or federal lists)	2
Rating of Value If score is: 2 = H 1 = M 0 = L	Re	cord the rating on	the first nage

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

- Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
   Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Old-growth/Mature forests: Old-growth west of Cascade crest Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 see web link above*).
- Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 see web link above*).
- Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 6.5 ft (0.15 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

## King County iMap



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Date: 1/24/2017 Notes:



# King County iMap



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Date: 1/2/2017 Notes:



## Parcel 3424069035



# Assessed Waters/Sediment

Water

Category 5 - 303d

Category 4C

Category 4B

Category 4A

Category 2

Category 1

#### Sediment

Category 5 - 303d

ZZZZ Category 4C

**Category** 4B

Category 4A

Category 2

ZZZ Category 1

0 0.125 0.25 0.5





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**Water Quality & Supply** 

Waste & Toxics

Air & Climate

Cleanup & Spills

## Water Quality Improvement Projects (TMDLs)

Water Quality Improvement > Water Quality Improvement Projects by WRIA > WRIA 8: Cedar-Sammamish

#### **WRIA 8: Cedar-Sammamish**

The following table lists overview information for water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area (<u>WRIA</u>). Please use links (where available) for more information on a project.

#### Counties

- King
- Snohomish



Waterbody Name	Pollutants	Status**	TMDL Lead		
Ballinger Lake	Total Phosphorus	Approved by EPA	<u>Tricia Shoblom</u> 425-649-7288		
Bear-Evans Creek Basin	Fecal Coliform	Approved by EPA	<u>Joan Nolan</u> 425-649-4425		
	Dissolved Oxygen Temperature	Approved by EPA			
Cottage Lake	Total Phosphorus	Approved by EPA Has an implementation plan	<u>Tricia Shoblom</u> 425-649-7288		
Issaquah Creek Basin	Fecal Coliform	Approved by EPA	Joan Nolan 425-649-4425		
Little Bear Creek Tributaries:  Trout Stream Great Dane Creek Cutthroat Creek	Fecal Coliform	Approved by EPA	Ralph Svrjcek 425-649-7036		
North Creek	Fecal Coliform	Approved by EPA Has an implementation plan	Ralph Svrjcek 425-649-7036		
Pipers Creek	Fecal Coliform	Approved by EPA	<u>Joan Nolan</u> 425-649-4425		
Sammamish River	Dissolved Oxygen Temperature	Field work starts summer 2015	Ralph Svrjcek 425-649-7036		
Swamp Creek	Fecal Coliform	Approved by EPA Has an implementation plan	Ralph Svrjcek 425-649-7036		

<sup>\*\*</sup> Status will be listed as one of the following: Approved by EPA, Under Development or Implementation

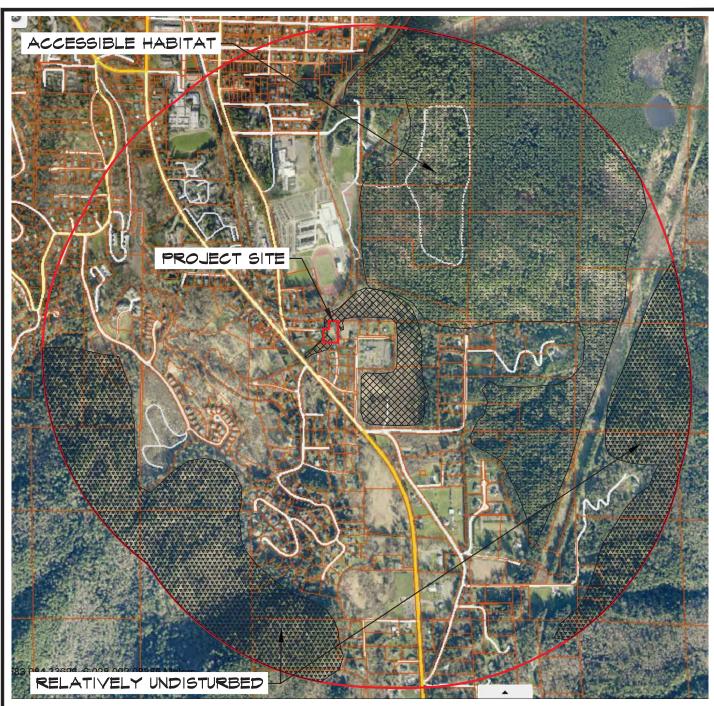
#### For more information about WRIA 8:

- Waterbodies in WRIA 8 using the Water Quality Assessment Query Tool
- Watershed Information for WRIA 8

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Last updated July 2015

<sup>\*</sup> The Department of Ecology and other state resource agencies frequently use a system of 62 "Water Resource Inventory Areas" or "WRIAs" to refer to the state's major watershed basins.





APPROXIMATE WETLAND
UNIT FOR RATING

ACCESSIBLE HABITAT = 23% OF 1 KM POLYGON

RELATIVELY UNDISTURBED = 16% OF 1 KM POLYGON

TOTAL = 39%



SCALE: 1:1200

## Altmann Oliver Associates, LLC

PO Box 578 Carnation, WA 98014

Office (425) 333-4535 Fax (425) 333-4509



FIGURE A
PARCEL 342406-9035
ISSAQUAH, WASHINGTON

DRAWN PROJECT
SO 3333B
SCALE
AS NOTED
DATE
OI-25-17
REVISED

3333B-MIT-01-25-17.dwg